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SOVIET SMALL ARMS

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SOVIET SMALL ARMS

Workers, soldiers and sailors stormed the Winter Palace with "three-line" rifles and Maxim machineguns. They fought along with Red Army men on the battlefields of the Civil War. These were practically the only models of small arms remaining from the old army for the rebelling people.

Of course, even in Czarist times there were bright minds and skilled hands among small arms men. As early as 1905 V. G. Fedorov, who later became a famous Soviet scientist, developed a project of an automatic rifle. In seven years the designer proposed an automatic rifle taking a 6.5 MM cartridge, later called an assault rifle. A special team of the Izmail regiment was armed with this weapon, and sent to the front at the end of 1916. A successful design of automatic rifle was proposed by the soldier Ya. U. Roshchepey.

However, due to the inertness and technical backwardness of Russia of that time, these models were not put into wide use. The same fate befell an automatic rifle proposed by me almost sixty years ago--in 1908. Testing of the weapon was carried out for more than six years. In spite of positive evaluations of numerous commissions, it was never introduced into serial production.

Instead of producing domestic automatic weapons required at the front, the Czarist government decided to negotiate foreign purchases. Russia received the Danish Madson Automatic Rifle, the English Lewis and French Chauchat.

Almost immediately after the victory of the Great October Socialist Revolution, the Communist Party and Soviet Government took decisive steps to increase production of small arms.

In 1918 the Council of Labor and Defense by special resolution commissioned V. G. Fedorov to set up production of his assault rifles. A shop for creating experimental models was organized under the supervision of V. A. Degtyarev, the talented self-taught designer, in one of the small arms plants.

The 3,200 Fedorov assault rifles were employed successfully by Red Army men in combat at the Karelian front and the Caucasus. A great amount of experience which later became very useful was accumulated in designing the assault rifle and setting up of production. In the design office created at the plant, Fedorov, with the collaboration of Degtyarev, developed several models of light, heavy and aircraft machineguns. Later the founder of the theory of automatic weapons, Academician A. A. Blagonravov, wrote: "A great event in domestic artillery technology was the creation of the first assault rifle in the world by V. G. Fedorov".

In the beginning of the twenties, it was decided to redesign the Maxim Heavy Machinegun for the purpose of providing the young Red Army with light machineguns. Designers V. A. Degtyarev, I. N. Kolesnikov and I were engaged in this work. In 1925, after extensive testing of manufactured models, the Maxim-Tokarev Light Machinegun was accepted and serial production set up. Later I was able to improve the weapon and reduce the weight to 9.6 kg.

At that time the light machinegun designed by V. A. Degtyarev passed tests successfully. Light, simple in design and reliable in handling, in 1927 it was accepted by the Red Army under the designation DP (Degtyarev - Infantry) Light Machinegun and became the main automatic weapon of the rifle squad for destroying targets at distances up to 800m. The DP weighed 10.5 kg without ammunition. Magazine capacity was 47 rounds. The cyclic rate of fire was 600 rounds per minute, and the practical rate 80.

Armed with this weapon, the famous "Degtyar", our warriors destroyed the *basmachy in Central Asia, defeated the Japanese Samurai at Khasan and Khalkhyn-Gol, and fought through the entire Great War of the Fatherland.

Starting with the twenties, Soviet designers V. A. Degtyarev, V. G. Fedorov, I. N. Kolesnikov, S. G. Simonov and others worked constantly on the creation of an automatic rifle. Only in 1936 was a model of talented small arms man S. G. Simonov accepted. His AVS-39 was designed for single shot fire and automatic fire in short bursts. However, the experience of manufacture and employment indicated that the design was relatively complicated, malfunctions occurred during firing and the rifleman became fatigued quickly.

In testing at about this time was a semiautomatic rifle on which I had worked more than twenty years. The automatic mechanism was gas operated. A commission ruled that the rifle, which was designed for single shot fire, was more simple and reliable and reliable than the AVS-39, and the weapon was accepted. Later I improved it, reduced the weight by 600g, shortened the length and raised the reliability. The modernized rifle was designated the SVT - 40. Weight was 4.3 kg (3.8 kg without bayonet), length 1,463 mm (1,226 mm without bayonet). Magazine capacity was 10

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*members of a counter-revolutionary band in Central Asia--Translator

rounds. Practical rate of fire was 20 to 25 rounds per minute. Muzzle velocity was 800 m/sec. A sniper version equipped with optical sight and more highly finished bore was produced.

In the middle of the twenties I already started to work on a submachine gun--a new type of weapon for that time--and designed a submachine gun taking the Nagant 7.62-mm revolver cartridge. The automatic mechanism was blow-back operated. Somewhat later models of submachine guns were presented by Korovin and Degtyarev.

In 1934 the Degtyarev Submachine Gun taking the 7.62-mm pistol cartridge TT, which was characterized by simple design and reliability, was accepted. It underwent combat testing in the forests and marshes of Finland in the winter of 1939-1940. Certain improvements were introduced into the design on the basis of experience gained there. Thus, the 25 round box magazine was replaced by a 71 round drum type magazine. The new submachine gun became known as the PPD-40.

The rapid development of aircraft necessitated creation of antiaircraft weapons for infantry. For this reason, special tripod type antiaircarft mounts for the Maxim Machinegun were developed. In 1931 was accepted the universal wheeled tripod mount, which made it possible to fire the Maxim Machinegun at ground and aerial targets. At about this time, my son, N. F. Tokarev, created an antiaircraft mount for four of these machineguns.

In the thirties Soviet designers started to work on a large-caliber machinegun for use against aircraft and armored ground targets. The most successful design, which was the basis for the DP Automatic Rifle, was proposed by V. A. Degtyarev. Subsequently G. S. Shpagin replaced the magazine feed with the more efficient belt feed. The new machinegun was named the DShK (Degtyarev - Shpagin- large caliber) 12.7mm Heavy Machinegun Model 1938. It was supported by a mount proposed by I. N. Kolesnikov. The machinegun weighed 34kg (the mount weighed 102 kg). Cyclic rate of fire was up to 600 rounds per minute, practical rate 80. Belt capacity was 50 rounds, muzzle velocity 850 m/sec. At a distance of 1,500m. the DShK armor-piercing bullet penetrated 15mm of armor.

Before the Great War of the Fatherland the Red Army was equipped with good small arms. In service were the 7.62-mm Magazine Rifle Model 1891/30, the sniper's version of the latter, the Tokarev Semiautomatic Rifle Model 1940 (SVT-40), the Degtyarev Automatic Rifle DP, Model 1938, the Maxim Heavy Machinegun, the 12.7-mm Large Caliber Heavy Machinegun DShK. The personal weapon for commanders and certain categories of soldiers was the 7.62-mm TT (Tula-Tokarev) Pistol designed at the end of the twenties.

From the very first days our designers started to work on the creation of new and improved models.

Thanks to stamping and welding employed in the manufacture of many parts, and also wide tolerances, under the difficult conditions of wartime it was possible to set up in a short time mass production of the G. S. Shpagin Submachine Gun Model 1941 (PPSh-41). In principle of operation and appearance, this weapon was similar to the PPD-40, but differed in greater design simplicity and conveniences of operation and production. The PPSh-41 weighed 3,5 Kg without magazine (100 g less than the PPD-40); cyclic rate of fire was 1,000 rounds per minute, practical rate 100 to 120; muzzle velocity 500 m/sec; capacity of drum type magazine 71, of box type 35 rounds.

Offensive operations of the Soviet Army necessitated all-possible lightening of submachine guns. The talented thirty-year old designer A. I. Sudayev also developed a new and lighter submachine gun (the PPS-43) which had no equal for its weight (3 kg without magazine). It was provided with a folding metal stock for reduction of size. The trigger mechanism was designed only for automatic fire. However, due to the low rate of fire (600 rounds per minute as against the 1,000 of the PPSh), it was possible to fire single shot. The exceedingly simple design provided high reliability, convenient operation and production simplicity.

During the Great War of the Fatherland, it was required to organize on an urgent basis production of antitank weapons. In an exceedingly short time period, V. A. Degtyarev, one of the oldest small arms designers, developed the 14.5-mm Antitank Rifle Model 1941 (PTRD). It was a single shot weapon in which the bolt opened automatically, with a weight of 14.5 Kg. Almost simultaneously designer S. G. Simonov proposed a model of semi-automatic 14.5mm antitank rifle (PTRS) provided with five round magazine. The Simonov rifle weighed 20.9 kg. The practical rate of fire was up to 15 rounds per minute (as against 8 to 10 for the PTRD). On the basis of powerful armor piercing ability, both antitank weapons acquired a good reputation in combat against the fascist German T-III and T-IV tanks in the first period of the war. They were successfully employed in combat near Moscow in autumn and winter of 1941, and played a sizeable role in combat operations in the Stalingrad area.

Even before the war it was clear that the Maxim Heavy Machinegun, weighing about 64 kg, was too heavy for conducting combat operations, especially offensive. Several Soviet small arms designers were working on the creation of a new lighter version. However, only P. M. Goryunov was able to develop a model satisfying all requirements. After testing, his machinegun was designated the Goryunov Heavy Machinegun Model 1943 (SG-43). With its mount, developed by V. A. Degtyarev, it weighed 40 kg--two-thirds that of the old and meritorious Maxim. Our soldiers conducted fire with the SG-43 Machinegun both at ground and aerial targets. The new weapon passed severe tests in field of combat and earned the love of warriors.

During the Great War of the Fatherland, there were produced twelve million carbines and rifles, more than six million submachine guns (five times more than in fascist Germany), and almost one million light and heavy machineguns.

After the victorious end of the war, Soviet designers continued to work on improvement of small arms. As early as the first postwar year the 7.62 Company Machinegun Model 1946 was accepted. The weight (13 kg) was considerable less than that of the SG-43, and in firepower the weapon exceeded the DP Automatic Rifle.

In the following year the Soviet Army received the AK Assault Rifle taking the 7.62-mm Cartridge Model 1943, developed by the talented 28-year old self-taught designer M. T. Kalashnikov, a former tankman senior sergeant. This weapon was immediately recognized for its reliability of operations, accuracy and light weight.

This is what the American magazine Newsweek wrote: "More reliable than rockets or mortars is the inseparable fellow-traveller of the Viet Cong--the short Soviet made AK-47 Automatic Carbine. It revealed itself as a weapon much more reliable than the capricious American M-16 rifle".

Sometime later the rifle squad received a powerful automatic weapon--the 7.62-mm Degtyarev Light Machinegun, designed to take the Model 1943 Cartridge. In firepower this weapon considerably excelled over the meritorious DP. In recent years the Soviet small arms arsenal was augmented by new and improved models. These were the Modernized AKM Assault Rifle, RPK Light Machinegun, and PK Heavy Machinegun developed by Hero of Socialist Labor M. T. Kalashnikov, a deserving continuer of the work of glorious Russian weapons masters. And I, an old small arms man, who has given more than seventy years of my life to my beloved work, do not doubt that Soviet Small Arms will continue to serve the cause of defense of the conquests of the Great October!

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13. ABSTRACT

This historical sketch shows the development of Soviet small arms from Czarist times to the post-WWII era. From the adoption of V. G. Fedorov's 6.5 mm automatic rifle in 1918, the author traces the developments and improvements in Soviet small arms to the adoption of the AK-47 Assault Rifle presently being used in Viet Nam.

During the decade of 1920 - 30, the following developments took place: the Maxin-Tokarev Light Machinegun was developed from the Maxim Heavy Machinegun, the DP (Degtyarev - Infantry) Light Machinegun was developed. During the decade from 1930 - 40, the following developments took place: the SVT-40 Semi-automatic Rifle was adopted, the Degtyarev Submachinegun was developed, and the 12.7 MM Heavy Machinegun was adopted. In the years 1940 - 45, the following developments took place: the PPSh-41 submachine gun was adopted, the PPS-43 submachine gun was adopted, the 14.5 mm Anti-Tank Rifle was adopted and the SG Heavy Machinegun was adopted. In the post-war era, these developments took place: the 7.62 Company Machinegun was adopted, the AK-47 Assault Rifle was adopted, and the 7.62 Degtyarev Light Machinegun was adopted.

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